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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/800,239	03/12/2004	James Ohr	5760-06001	8833

7590 08/09/2004

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Austin, TX 78767

EXAMINER

VITAL, PIERRE M

ART UNIT	PAPER NUMBER
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2188

DATE MAILED: 08/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/800,239

Applicant(s)

OHR, JAMES

Examiner

Pierre M. Vital

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to Application No. 10/800,239 filed March 12, 2004. Claims 1-13 are pending in this application.
2. The specification and the claims have been examined with the results that follow.

Drawings

3. The drawings are objected to because of the following informalities:

Figures 5 and 6 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The disclosure is objected to because of the following informalities:

The disclosure uses terms such as "IT", "LAN" and "SCSI" which are not properly defined as required for acronyms. Acronyms must be defined at their first usage in the disclosure.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1, 4, 6-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase "operable to" does not set forth applicant's invention. It has been held that the recitation that an element is "operable to" perform a function is not a positive limitation but only requires the ability to so perform that function.

Claims 2-3 and 5, directly dependent on claim 1, are also rejected for the reasons stated above.

Double Patenting

7. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

8. Claims 9-13 are rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 1-5 of prior U.S. Patent No. 6,721,851. This is a double patenting rejection.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1, 4, 7 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Yanai et al (US6,173,377).

As per claim 1, Yanai discloses a system for protecting a destination block in a disk array from being overwritten, the system comprising:

a data mover [*data director 32, 68; Fig. 1*]; a controller coupled to the data mover [*controller 16, 44 coupled to respective data director 32, 68; Fig. 1*], the controller operable to detect an application write request to the destination block [*data director 68 controls data transfer over communication bus 70 to which all the elements of the secondary data storage system controller are coupled; Fig. 1; col. 9, lines 17-37-40*]; and to stall an application write request while a data mover operation initiated by a data mover is terminated [*current write task is temporarily suspended while awaiting completion of the pending remote write; col. 18, lines 6-16*].

As per claim 4, Yanai discloses a controller operable to complete an application write request upon a termination of the data mover operation [*tasks*

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suspended while waiting completion of a pending remote write are serviced when the remote data storage acknowledges completion of the pending remote write; col. 17, lines 44-50].

As per claim 7, Yanai discloses a system for protecting a destination block in a disk array coupled to a storage area network from being overwritten by a server write request to the destination block, the system comprising:
a data mover [*data director 32, 68; Fig. 1*]; a controller coupled to the data mover [*controller 16, 44 coupled to respective data director 32, 68; Fig. 1*], the controller operable to detect the server write request [*data director 68 controls data transfer over communication bus 70 to which all the elements of the secondary data storage system controller are coupled including service processor 62; Fig. 1; col. 9, lines 17-37-40*]; and to stall the server write request while a data mover operation is terminated [*current write task is temporarily suspended while awaiting completion of the pending remote write; col. 18, lines 6-16*].

As per claim 8, Yanai discloses a block protection system comprising:
A storage device [*storage devices 20, 48; Fig. 1*]; a data mover [*data director 32, 68; Fig. 1*]; a controller coupled to the data mover [*controller 16, 44 coupled to respective data director 32, 68; Fig. 1*], the controller operable to detect a write request to a destination block of a storage device [*data director 68 controls data transfer over communication bus 70 to which all the elements of the secondary data storage system controller are coupled; Fig. 1; col. 9, lines 17-37-40*]; and to stall the write request while a

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data mover operation is terminated [*current write task is temporarily suspended while awaiting completion of the pending remote write*; col. 18, lines 6-16].

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 2-3 and 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yanai et al (US6,173,377) and applicant's Admitted Prior Art (hereinafter "APA").

As per claim 2, Yanai discloses the claimed invention as detailed above in the previous paragraphs. However, Yanai does not specifically teach the data mover is disposed in the disk array as recited in the claim.

APA discloses a data mover disposed in a disk array [*data movers may be functionally implemented in storage device controllers; a disk array may include one or more RAID controllers and a plurality of disk drives as is well known in the art*; pg. 3, lines 14-17] to provide storage consolidation in the data storage system by reducing the rapidly increasing disk bit densities (pg. 1, lines 13-20).

Since the technology for implementing a data mover disposed in a disk array was well known as evidenced by APA, and since a data mover disposed in a disk array provides storage consolidation in the data storage system by reducing the rapidly increasing disk bit densities, an artisan would have been motivated to implement a data mover disposed in a disk array in the system of Yanai. Thus, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the system of Yanai to include a data mover disposed in a disk array because it was well known to provide storage consolidation in the data storage system by reducing the rapidly increasing disk bit densities (pg. 1, lines 13-20) as taught by APA.

As per claim 3, Yanai discloses the claimed invention as detailed above in the previous paragraphs. However, Yanai does not specifically teach the controller is disposed in the disk array as recited in the claim.

APA discloses a controller is disposed in the disk array [*a disk array may include one or more RAID controllers and a plurality of disk drives as is well known in the art*; pg.2, line 16] to provide storage consolidation in the data storage system by reducing the rapidly increasing disk bit densities (pg. 1, lines 13-20).

Since the technology for implementing a controller disposed in a disk array was well known as evidenced by APA, and since a controller disposed in a disk array provides storage consolidation in the data storage system by reducing the rapidly increasing disk bit densities, an artisan would have been motivated to implement a controller disposed in a disk array in the system of Yanai. Thus, it

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would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the system of Yanai to include a controller disposed in a disk array because it was well known to provide storage consolidation in the data storage system by reducing the rapidly increasing disk bit densities (pg. 1, lines 13-20) as taught by APA.

As per claim 5, Yanai discloses the claimed invention as detailed above in the previous paragraphs. However, Yanai does not specifically teach the data mover provides an extent list including the destination block to the controller as recited in the claim.

APA discloses a data mover providing an extent list including a destination block to a controller [*data mover 200 coupled to storage device controller receives the addresses of the source and destination devices and a list of data extents that describe the destination location*; pg. 3, lines 12-16, pg. 4, lines 1-9] to provide greater storage reliability and availability in the data storage system by meeting data protection requirements including efficient and reliable data back-up in the system (pg. 1, lines 13-20).

Since the technology for implementing a data mover providing an extent list including a destination block to a controller was well known as evidenced by APA, and since a data mover providing an extent list including a destination block to a controller provides greater storage reliability and availability in the data storage system, an artisan would have been motivated to implement a data

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mover providing an extent list including a destination block to a controller in the system of Yanai. Thus, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the system of Yanai to include a data mover providing an extent list including a destination block to a controller because it was well known to provide greater storage reliability and availability in the data storage system by meeting data protection requirements including efficient and reliable data back-up in the system (pg. 1, lines 13-20) as taught by APA.

As per claim 6, Yanai discloses the claimed invention as detailed above in the previous paragraphs. However, Yanai does not specifically teach the controller is operable to send a request to the data mover to initiate the data mover operation termination as recited in the claim.

APA discloses a controller operable to send a request to a data mover to initiate a data mover operation termination [*data mover 200 is capable of initiating and controlling data movement on the SAN 110*; pg. 2, lines 17-23] to provide storage flexibility in the data storage system.

Since the technology for implementing a controller operable to send a request to a data mover to initiate a data mover operation termination was well known as evidenced by APA, and since a controller operable to send a request to a data mover to initiate a data mover operation termination provides storage flexibility in the data storage system, an artisan would have been motivated to implement a controller operable to send a request to a data mover to initiate a

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data mover operation termination in the system of Yanai. Thus, it would have been obvious to one of ordinary skill in the art, having the teachings of Yanai and APA before him at the time the invention was made, to modify the system of Yanai to include a controller operable to send a request to a data mover to initiate a data mover operation termination because it would have provided storage flexibility in the data storage system by allowing the data mover to control the actual data transfer from the source device to the destination device (pg. 1, lines 13-20, pg. 3, lines 1-2) as taught by APA.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R. § 1.111 (c) to consider these references fully when responding to this action. The documents cited therein teach stalling write request while a data mover operation is terminated; deriving, transmitting and verifying extent list in a storage copy operation.

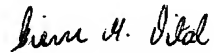
14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre M. Vital whose telephone number is (703) 306-5839. The examiner can normally be reached on Mon-Fri, 8:30 am - 6:00 pm, alternate Friday off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on (703) 306-2903. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

August 4, 2004


Pierre M. Vital
Examiner
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